

REMARKS

Claims 1-6, 9 and 14 are pending in this application.

By this Amendment, claims 1, 2, 5, 6 and 14 are amended to recite additional features disclosed in the specification at, for example, Figs. 2 and 4, and paragraphs 38, 39 and 53.

Claims 5 and 6 are also amended to incorporate the subject matter recited in claim 8.

Accordingly, claim 8 is canceled.

Reconsideration of the application is respectfully requested.

The Examiner is respectfully requested to acknowledge consideration of the references listed on, and to return initialed copy of, the Form PTO-1449 submitted with the September 14, 2005 Information Disclosure Statement.

The Office Action objects to the claims. Claims 1, 2, 5, 6 and 14 are amended to overcome this objection. Accordingly, withdrawal of the objection to the claims is respectfully requested.

The Office Action rejects claims 1-9 and 14 under 35 U.S.C. §103(a) over U.S. Patent 6,392,736 to Furukawa et al. ("Furukawa"). This rejection is respectfully traversed.

Furukawa does not disclose or suggest spacers that each have a sticking layer on an outer surface thereof, the spacers each being fixedly adhered to the lower substrate by the sticking layer, as recited in claim 1, and similarly recited in claims 2, 5, 6 and 14. In particular, Furukawa discloses spacers 25. See Fig. 1 and col. 12, lines 35-37. However, only the spacers 25' at the boundary of the liquid crystal layer are provided with sticky material. See col. 12, lines 35-37. Thus, Furukawa does not disclose or suggest that each spacer is fixedly adhered to the lower substrate by the sticking layer.

The Office Action asserts that Furukawa discloses spacers adhered to a substrate, citing the Abstract and col. 4, lines 29-40 of Furukawa. However, the cited portion of Furukawa merely discloses that only the spacers 25' are provided with sticky material, as

discussed above. Furukawa does not disclose or suggest that each spacer 25 is provided with sticky material.

Furthermore, Furukawa does not disclose or suggest a light-blocking layer formed in the upper substrate, the light-blocking layer including a black matrix or a black stripe, as recited in claim 1, and similarly recited in claims 2, 5, 6 and 14. In particular, Furukawa discloses an insulating layer 23. However, Furukawa does not disclose or suggest a black matrix or a black stripe. Therefore, Furukawa does not disclose or suggest a light-blocking layer that includes a black matrix or a black stripe.

In addition, Furukawa does not disclose or suggest an average particle size D of the spacers ranging from $0.96d$ to d , the thickness d being within a range of 2.83 through 3.26 microns, as recited in claim 1, and similarly recited in claims 2, 5, 6 and 14. In particular, Furukawa discloses a diameter of spacer particles ranging from 4 microns to 10 microns. Furukawa does not disclose or suggest a ratio between the particle size and a thickness of the liquid crystal layer. Therefore, Furukawa does not disclose or suggest the particle size and the thickness recited in the claims.

The Office Action asserts that Furukawa discloses, at col. 9, line 51 – col. 10, line 12, that bubbles may be suppressed by choosing large spacer particle diameters to compensate for small spacer particle densities. However, such a teaching does not disclose or suggest the particle diameter range and the thickness range recited in the claims.

Finally, Furukawa does not disclose or suggest performing ultraviolet (UV) exposure to a surface of one of the upper or lower substrate using a high-pressure mercury vapor lamp, as recited in claims 5 and 6. In particular, Furukawa discloses a heating procedure under a temperature range of 120°C through 160°C. See col. 11, lines 32-33. Furukawa does not disclose or suggest performing ultraviolet exposure using a mercury vapor lamp. Therefore, Furukawa does not disclose or suggest the subject matter recited in claims 5 and 6.

For any or all of the above reasons, Furukawa does not disclose or suggest the subject matter recited in claims 1, 2, 5, 6 and 14, and claims 3, 4, 7 and 9 depending therefrom. Accordingly, withdrawal of the rejection of claims 1-7, 9 and 14 under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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